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TOMORROW'S ROADS TODAY

State Roads Commission of Maryland

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State Roads Commission of Maryland

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An Interim Report

1960-1962

J. MILLARD TAWES
Governor of Maryland

During his administration, Governor Tawes has been vigorously cognizant of Maryland's need for a strengthened highway system. He reorganized the State Roads Commission in 1959 and the next year modified existing highway law to permit more rapid construction of the state's network of expressways and primary highways.

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COMMISSION MEMBERS
JOHN B. FUNK
CHAIRMAN OF COMMISSION
AND DIRECTOR OF HIGHWAYS
PAUL J. BAILEY
HARLEY P. BRINSFIELD
LANSDALE G. CLAGETT
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SPEC. ASST. ATTY. GEN.

To the Members of the General Assembly

Gentlemen:

The State Roads Commission of Maryland has the privilege to submit to you an interim report of its accomplishments during 1961. During the period, the Commission has made significant strides in its goal to give Marylanders a network of primary highways and expressways adequate to meet the complex needs of our State for years to come.

Respectfully submitted

State Roads Commission of Maryland

JOHN B. FUNK
Chairman of Commission and
Director of Highways

Commission Members

Paul J. Bailey
Harley P. Brinsfield
Lansdale G. Clagett
Thomas N. Kay
John J. McMullen
William B. Owings

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THE COMMISSION

John B. Funk, Chairman of the Commission and Director of Highways.

Paul J. Bailey, Commissioner representing St. Mary's, Charles, Calvert and Anne Arundel counties.

Harley P. Brinsfield, Commissioner representing the city of Baltimore.

Lansdale G. Clagett, Commissioner representing Montgomery and Prince George's counties.

Thomas N. Kay, Commissioner representing the nine counties of the Eastern Shore.

John J. McMullen, Commissioner representing Garrett, Allegany, Washington, Frederick and Carroll counties.

William B. Owings, Commissioner representing Baltimore, Harford and Howard counties.

College Park Md

1960-1962—YEARS OF BIG ACCOMPLISHMENT

In February 1960, the State Roads Commission and Governor Tawes proposed a change in the State's highway law to permit acceleration of construction on the State's expressway and primary highway networks.

Without a dissenting vote, the General Assembly passed legislation modifying the 12-year program and giving the Commission the green light to build or place under contract 490 miles of highway by 1965. This was called the 5-year "Go Roads" program.

With almost two of the five years having passed, the the commission reports now that it has completed or placed under contract since 1960 228 miles of highway on the 490 miles "Go" network, almost 50 percent of its task complete.

The "Go Roads" program was designed to give Maryland big highways where they were needed. Also, it was designed to give the commission some flexibility in programming so that it could meet new demands as quickly as they developed. Basically, the program envisaged a modern primary highway or expressway piercing every region of the State. In rapidly growing urban regions, the program was designed to meet the need for efficient belt routes and high-capacity radials.

Hustle and Bustle

Every part of Maryland has seen the hustle and bustle of highway construction over the past two and one-half years.

In the Baltimore region, the commission placed under contract all remaining portions of the 33-mile Baltimore Beltway. This Interstate expressway, which by linking the seven rapidly growing communities of suburban Baltimore not only will relieve traffic congestion but also will give the entire region an economic lift, will be opened to traffic this year.

In Western Maryland, the commission started the vast job of rebuilding long-neglected U.S. Route 40. Contracts to bring this road up to modern standards were awarded quickly and many important miles of this road have either been opened to traffic or placed under contract.

301 Dualized

To the south, the commission completed dualization of U.S. 301. Maryland, incidentally, has a higher percentage of Route 301 dualized than does any other State through which the highway passes.

To the East, the commission has under contract all projects necessary to dualize U.S. 50 as far as Cambridge. Work was also scheduled on portions of U.S. Route 13 and a start was made on the dualization of 301 in Kent and Cecil counties by advertising bridges over the Sassafras River and Maryland Route 290.

Expressway Corridor

To the North, the most pressing need was for an expressway serving the rapidly expanding corridor between Baltimore and Wilmington. To construct this road as rapidly as possible without channeling funds from other important projects, the commission decided to call upon toll financing. This is the Northeastern Expressway and will be ready for traffic by November of 1963.

In the Washington region, such important highways as the Capital Beltway, University Boulevard, Riggs Road, Colesville Road, River Road, George Palmer Highway drew top priority under the Go Roads Program.

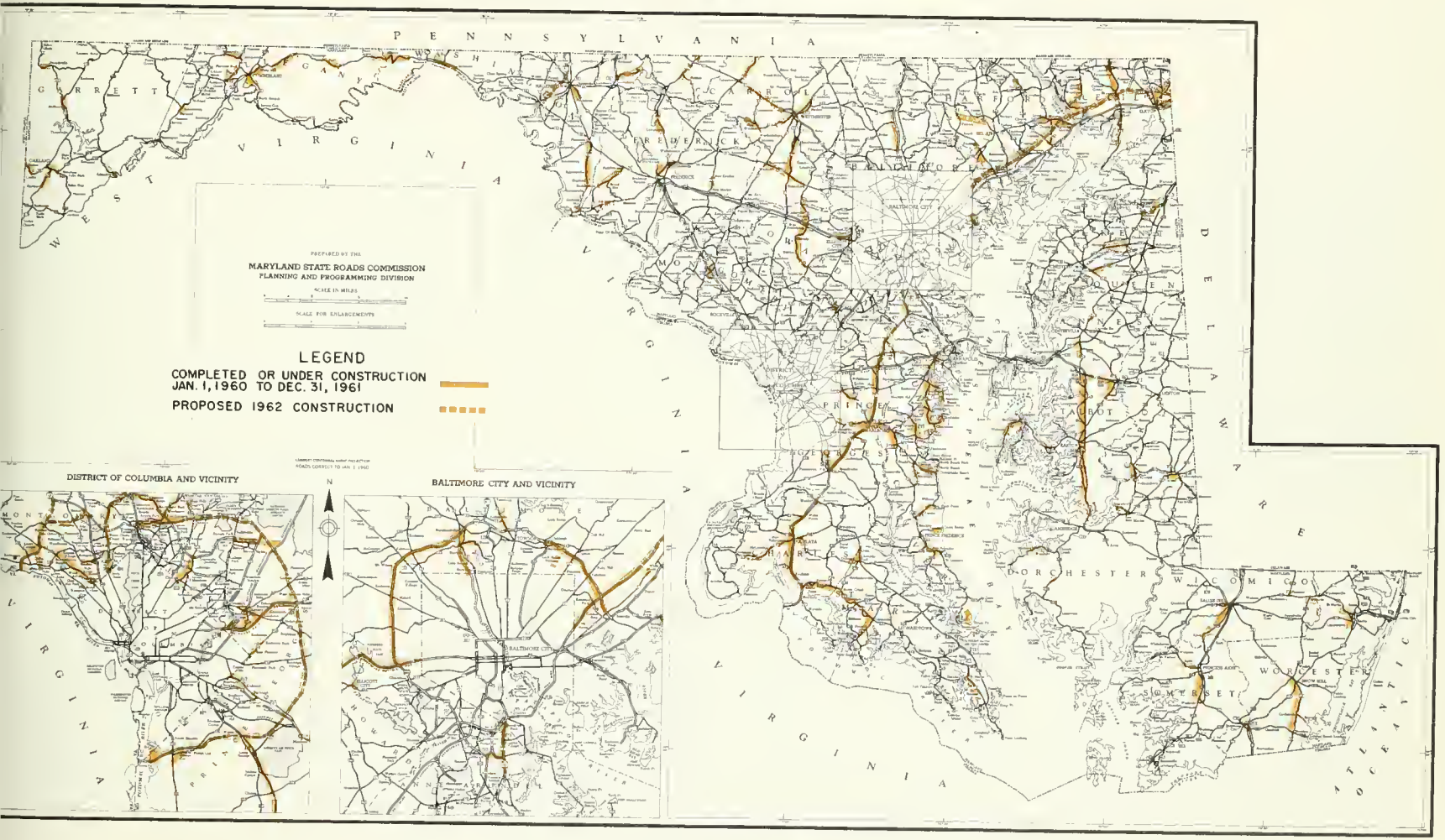
In summary, the commission has made a significant start in honoring its commitment to the people of Maryland. That commitment charges the commission with giving the State as rapidly as possible a network of big highways that will serve the greatest number of people, meaning a savings in lives, time and money for Marylanders as well as visitors to our State.

Here is what U.S. Route 50 looks like on the Eastern Shore. This is a new section opened last year and helping to make the road dual from the Bay Bridge to Easton. It will be dual as far as the Choptank River by the end of this year.

This important section of the Baltimore Beltway was opened to traffic last year. It is from Belair Road to Old Philadelphia Road. Remaining portions of Beltway will be open this summer.

Route 40 west of Hagerstown has a new face. This portion was constructed in concurrence with improvement of stretches of the city's street system.

BUILDING MARYLAND'S



HIGHWAY NETWORK

a look at the

INTERSTATE SYSTEM

The largest public works program in the nation's history is construction of a 41,000-mile system of expressways known as the National System of Interstate and Defense Highways which will link the principal cities of the country as serve to transport people and goods from border to border and coast to coast without a red light and without an intersection at grade.

The Federal-Aid Highway Act of 1956 authorized for financing construction of the Interstate system with 90 per cent Federal funds and 10 per cent State funds. Because the Federal Government does not share in administrative costs, the split in Maryland is approximately 82 per cent Federal funds and 18 per cent State funds.

The State Roads Commission is responsible for the construction of 354 miles of Interstate highways in Maryland. At present, a total of 120 miles are open to traffic and 54 miles are under construction. Approximately 34 more miles are programmed for construction by the end of 1962.

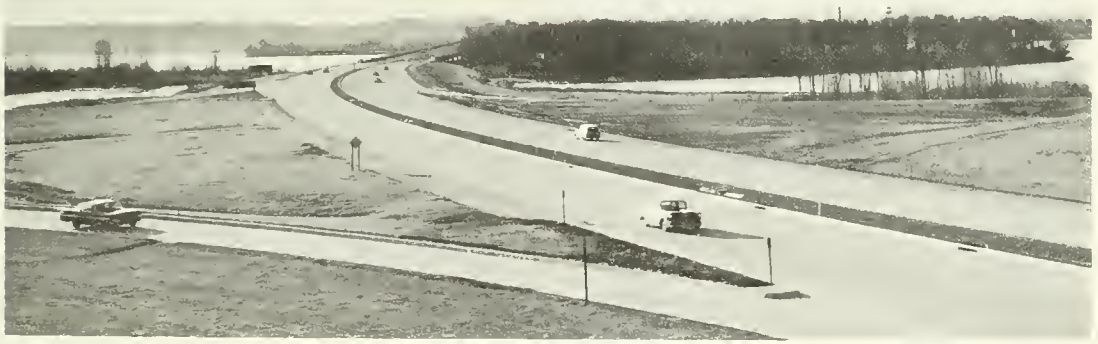
Interstate apportionments received by Maryland during the calendar year 1961 totalled $40,148,460. Baltimore City receives 40 per cent of this amount with the remaining 60 per cent earmarked for Interstate construction outside of the city.

Interstate mileage in Baltimore City is confined to the Jones Falls and East-West Expressways. Substantial progress has been made on the Jones Falls Expressway with the section from Charles Street to Thirty-Sixth Street open to traffic and portion northward to the city line under construction and scheduled for opening this year.

Progress on the East-West Expressway has included completion of planning and engineering studies and the holding of a public hearing on a location recommended by a team of consulting engineers and the city's Department of Public Works.

The status of the Interstate system in other parts of Maryland:

INTERSTATE ROUTE 695 (The Baltimore Beltway)—Almost 21 miles of this 32.8-mile expressway have been completed and all remaining mileage is under construction with opening scheduled this summer.



Here are the Capital Beltway approaches to the Woodrow Wilson Bridge in Prince Georges county.

INTERSTATE 70-S (U.S. Route 240)—Completed from Frederick to near the Washington City line.

INTERSTATE 83 (The Baltimore-Harrisburg Expressway) — Completed and under traffic from the Pennsylvania line to the Baltimore Beltway.

INTERSTATE 70 (Parallels U.S. 40, Baltimore to Hancock, in Western Maryland)—A three-mile section near Hancock has been opened to traffic. Location studies on the segment from Frederick to Hagerstown have been completed and a public hearing was held on proposed alignments. A start on construction is expected in 1962.

INTERSTATE 95 (Delaware line to Washington)—The section of this route from the Delaware line to White Marsh in Baltimore country will be built as a toll road with completion scheduled for November, 1963. The section from White Marsh to the Baltimore Beltway is under construction and the portion from the Beltway to the city line has been completed. The section of this highway from Baltimore to Washington is in the planning stage.

INTERSTATE 495 (The Capital Beltway)—Progress includes completion of a 2.7-mile section from Georgia Avenue to Northwest Branch with interchange connections at University Boulevard and U.S. Route 29. Also completed during 1961 were the Beltway approaches to the completed Woodrow Wilson Memorial Bridge. The commission has under contract the Cabin John Bridge and the Beltway from Cabin John Bridge to River Road. Both the bridge and the roadway are scheduled to be opened this year. In addition, the commission has awarded bridge contracts and stepped up programming for 1962 construction of other sections of the Capitol Beltway, particularly those segments from Indian Head Highway to Washington Boulevard in Prince Georges County, and from River Road to U.S. 240 (Rockville Pike) in Montgomery County.

BUILDING IN MARYLAND'S URBAN REGIONS

The cities of the world have always been plagued by traffic congestion. Whenever a lot of people try to get around in a limited area they get in each other's way, whether they travel by ox-cart, automobile or on foot. Cities, or as they are called today because of the flight to the suburbs, urban regions, are bigger than ever and contain more people than ever. The job of maintaining mobility for people and goods in the urban regions of country is one of the most challenging jobs facing America's road builders today.

Maryland is fast becoming an urban state. The two great metropolitan regions of Baltimore and Washington are the most dramatic examples of this. There are other urban complexes which decades ago were either leisurely villages or strips of farmland. The urban regions such as Cumberland, Hagerstown, Frederick, Annapolis, Cambridge, Easton and Salisbury all have traffic problems. So do the suburban communities around Washington in Southern Maryland and Montgomery and Prince Georges counties. So do Baltimore and Howard counties, and the vast urban strip developing between Baltimore and the Delaware line.

Here is a newly-built section of the Salisbury Thruway which will carry U.S. Route 50 through the city.

The State Roads Commission during 1961 played a many-faceted role in the battle against stagnation in the urban regions of our State. Through its construction schedules on the Interstate and State highway systems, the commission either completed or put under contract facilities designed to alleviate congestion in the State's municipalities and urbanized counties. Through its Planning and Programming Division, the commission coordinated future highway plans with the master plans of counties and cities. Through its Bureau of Urban and County Aid, the commission helped subdivisions use Federal funds available to them. Through its office of the Urban Coordinator, the commission advised and maintained liaison between the cities engaged in highway projects of their own and the commission.

Some of the specific accomplishments in the urban highway field during 1961 follow:

In the Baltimore region: Put under contract all remaining sections of the Baltimore Beltway. Put under contract the State portion of the Jones Falls Expressway.

In the Washington region: Completed one section of the Capital Beltway, rushed work on some segments of the beltway in Montgomery County including the Cabin John Bridge and programmed work on vital segments of the highway in Prince Georges County in addition to completing the John Hanson Highway, sections of University Boulevard, Bradley Boulevard and Route 29.

In the Salisbury region: Continued work on the Salisbury Thruway, paving the way for completion early this year. Put under study a master plan for the development of the urban region as it would affect State highway programming.

This new section of the Capital Beltway between Georgia Avenue and University Boulevard was opened to traffic last year.

In the Hagerstown region: Completed work on U.S. 40 including sections just west of the city as well as improvements to one-way streets within the city. Programmed construction on Interstate Route 81 and worked closely with city and county officials to settle location of Interstate Route 70 south of the city.

In the Easton-Cambridge Region: Completed dualization of Route 50 as far as Easton with completion scheduled this year on the section between Easton and Cambridge. Studies were instituted on belt routes around both Easton and Cambridge.

BUILDING IN MARYLAND'S HEARTLAND

While great interest is expressed in more spectacular urban construction, the State Roads Commission is mindful of the important role highways play in the heartland of the State. The importance of arteries leading from the big food-producing areas of the State into the big population centers is recognized.

The plan for Maryland's heartland highways includes construction of big expressways and primary highways in every region of the State to lift the economy of the entire area.

Under the "Go Roads" plan as indorsed by the General Assembly, a total of $8,000,000 a year was earmarked for secondary road construction in all parts of Maryland.

This sum has permitted the State Roads Commission to move only in the most critical areas of secondary road construction.

However, the commission conducted a comprehensive study of secondary highway needs in Maryland and presented it to the General Assembly last year. The commission proposes that this study be supplemented with a more complete appraisal of highway needs on the primary system and the county and municipal road and street networks of the State and submitted to the 1963 Session of the General Assembly.

With completion of these studies, the commission will have a floor of information from which it can project an intelligent program of highway construction on all systems to take care of the needs of an ever expanding future.

A typical new heartland highway is this section of Maryland Route 97 near Westminster.

Here is another important piece of heartland road built by the commission — a portion of Maryland Route 12 in Worcester county.

Maryland Route 216 near Laurel shows how older roads are improved under State's specifications.

BUILDING YOUR HIGHWAY

The techniques of highway design and construction practices have improved greatly from the days of the muddy wagon trails of fifty years ago.

Today, highways are built by skilled engineers using the most modern equipment working toward a complete integration and coordination of highway activities including reconnaissance; surveys; design; inspection and testing materials; supervision of construction; landscaping features; traffic control, safety devices and road markers and future maintenance requirements on the new roads.

The Commission adopts a program of projects that have passed the tests for both justified need in terms of traffic service and financing, and the Engineering Division begins working on projects that have been established in the program.

Where Will It Be

Location studies are one of the first steps in designing and building the highway. Several feasible routes are studied and comparative cost estimates prepared. The men in the field stake the alignment of the highway while all detailed engineering data is being prepared for the preparation of construction.

The Road design engineers utilize the survey data and make recommendations as to centerline location, width, curves, grades and other physical specifications. Special attention is directed to adequate sight distance and safety features including drainage facilities, landscaping and earth moving operation. From these and traffic study data the commission determines if expressways; controlled access dual highways; multi-lane highways or widening and resurfacing of existing roads are required to meet present predictable future traffic needs for safe and expeditious travel. Modern engineering design techniques make wide use of high speed computer systems.

After construction plans have been prepared to a semi-final stage, they are referred to the construction bureau and district engineer for a final review.

Construction Plans

During the production of the construction plans the engineering staff prepares accurate right of way plats which show precisely where the road will be constructed. These plats also show the degree of access,

The State portion of the Jones Falls Expressway from the City Line to the Baltimore Beltway will be open to traffic this fall.

property owners involved may have a clear understanding of the affect of the proposed highway.

When the contract documents for the project are completed, the project is advertised for proposals from contractors interested in building the facility. The Chief Engineer reviews the contractor's bid and recommends the Commission awards the work project to the contractor submitting the lowest acceptable bid.

Notice To Proceed

The contractor is given notice to proceed with the construction of the highway. At this point the District Engineer in whose district the project is to be built takes charge of the field activities for the commission.

Devoting its time exclusively to the administration of the construction contracts from the time the contractors enter to work on the highway project, the Bureau of Construction is charged with responsibility for maintaining high quality standards and, at the same time, with expediting the construction.

Composed of personnel with experience both technical and practical the Bureau seeks out any problem areas and recommends solutions.

An annoying bottleneck was removed near Washington area by the commission lost yeor with dualization of U.S. Route 29 near Four Corners.

University boulevard in Montgomery county used to be norrow as in picture at top. Now, same section of road is a modern dual urban highwoy.

Governor Tawes cuts ribbon opening o section of U.S. Route 13, known as the Pocomoke City Throughway.

Some of the most difficult highwoy construction in the State is now in progress on U S. 40 to the west. Here is o scene in Allegony county

Construction proceeds on Maryland Route 4 in Southern Maryland. Commission designers make every effort to save trees.

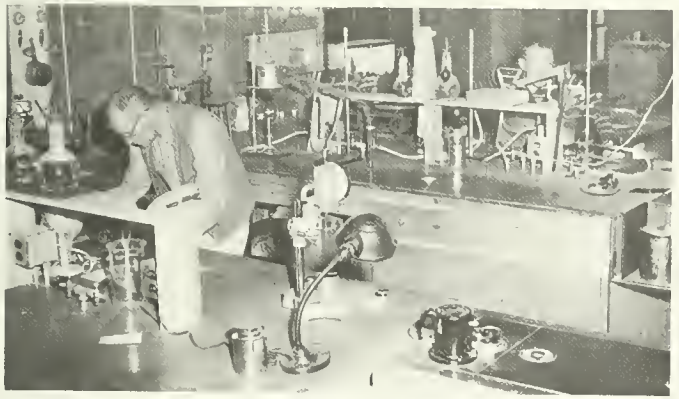
RESEARCH AND MATERIALS TESTING

The ultimate aim of the State Roads Commission is to build highways of the highest quality so that they will last longer and can be maintained with the minimum cost to the motoring public.

In 1961 over seven and a quarter billion vehicle miles were travelled over the 4,850 miles of highways in the state system.

So that we may keep abreast of the rapid growth in highway travel, advances must be made in research and testing materials that are used in the construction of these travel corridors throughout the state.

The most important of these advances was the reorganization of the Engineering Division. Early in 1961, the former Bureau of Soils and Materials and the former Bureau of Research were united and the Bureau of Materials and Research was created, making it possible for the related activities of each Bureau to be more closely coordinated.



Technicians examine materials used in highway construction. This is the interior of new Eastern Shore laboratory near Easton.

Critical Eye

The duties of this newly formed Bureau is to keep a critical eye on the behavior of the existing roads that are now being subjected to an increased volume of traffic. These observations are combined with traffic data and maintenance records obtained from other Bureaus, and the resulting information is used to adjust the criteria of which recommendations of pavement types and thickness for highways being designed are based.

The Federal Aid Highway Program has brought about considerable emphasis on quality control in highway construction. The Bureau of Materials and Research must conduct record sampling and testing required to comply with the Federal certification regulations. Where counties or municipalities are not equipped to cope with the preliminary testing work which is also required, the State Roads Commission through its Bureau of Materials and Research provides this service at a cost to these agencies.

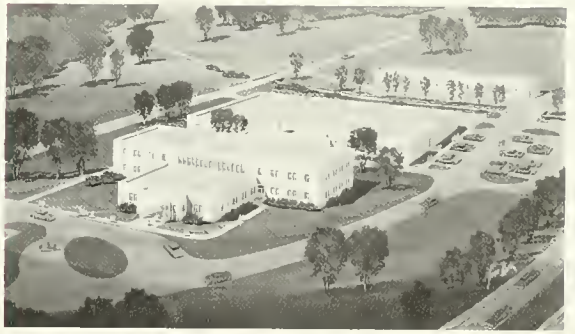
Double Amount

Although the work involved, by complying with Federal regulations, has the effect of doubling the amount of testing required, it will undoubtedly produce benefits in higher quality roads and lower maintenance costs in the future.

With the future in mind, the Commission is now constructing a new Central Laboratory facility near the intersection of the Jones Falls Expressway and the Baltimore Beltway. This location was carefully selected to provide rapid access to all parts of the State Highway system by use of the Beltway and other arterial highways. It is planned that the building be completed by late 1962.

In order to cope with the greater demands for sampling and testing, the equipment to be used in the new laboratory will be the most modern available.

To insure efficiency in the design and the equipment to be used in the new building, a survey was made of outstanding highway control and research laboratories all over the country.



Here is an artist's conception of what the new central laboratory and district headquarters near the Baltimore Beltway and the Jones Falls Expressway will look like when completed.

BUILD THEM RIGHT – BUILD THEM FAST!

This is the State Roads Commission's new regional laboratory near Easton in Talbot county.

Control Testing

Control testing is a service to assist construction personnel as the work progresses. In order to accomplish this more efficiently the Bureau of Materials and Research has established four sub-divisions of the State. These sub-divisions are called Regional Testing Laboratories, and are being equipped so that the personnel can cope with any routine testing required for State, County or Urban projects within their jurisdiction.

The first of these Regional Laboratories to be activated is located on U.S. Route 50 just below Easton. This operation began in September 1961. It serves the entire Eastern Shore and will in addition to the conduct of routine control on Commission work. prove to be of great aid to the county and municipal Roads departments of that area.

The Western Regional Laboratory is to be built near Hancock. It will handle routine control testing of materials on all projects in the area including Frederick County and extending to the Western end of the State. This unit will be in full operation when the 1962 construction season begins.

In the Annapolis area to the south will be served. in the same way as the eastern and western regions. by a laboratory unit located in a central location. This unit of operation is planned to begin by mid-1962.

The new Central Laboratory will house the northern regional unit to provide similar service in the Baltimore-Washington Metropolitan area.

The efforts of the Material and Research Bureau employs sound principals and accurate testing in producing the groundwork for a complete highway facility that supports traffic needs.

The big, beautiful Cabin John Bridge carrying the Capitol Beltway across the Potomac River just west of Cabin John is nearing completion and will be open this year.

The State Roads Commission is the approving agency for Baltimore City Federal aid highway work such as the Jones Falls Expressway.

This is the new bridge over the Chester River at Millington. It was opened to traffic last year.

Public has a chance to express its views on highway locations at public hearings such as this one in Boonsboro on proposed Interstate Route 70 in Western Maryland.

Allegany county construction work keeps men and machines in high gear to meet State Roads Commission deadlines.

MAINTAINING YOUR HIGHWAYS

In order to protect the investment of billions of dollars that are spent on planning and constructing the highways in Maryland it is necessary to preserve them by maintaining them.

Maintaining the highway starts immediately after the highway or bridge construction is completed and available for use.

Protection to the motoring public is the first duty of the personnel who are responsible for the "housekeeping" of the network of the Maryland Road system. Keeping the highways repaired and in top-notch condition helps to safeguard them and continues to keep them beneficial to the motoring public.

The State Roads Commission is responsible for maintaining 4,749.52 miles of state roads. The major maintenance operations include snow and ice removal, grass cutting, weed control, surface and subsealing, patching, shoulder improvements, surface treatments, resurfacing, road drainage, bridge painting and repairs, operating draw bridges, landscaping, installing automatic traffic signals, and preparing and posting of traffic signs.

Snow Emergency Route plan passed by General Assembly last year now requires motorists to have chains or snow tires on important routes during bad snow storms.

Snow Emergency

The Maintenance Division is closely interlocked throughout the State by a communications network designed to aid and contact personnel. Although it is used daily, the operation is particularly essential in emergencies such as snow storms, floods, and civil defense work, and when other means of communications may be overloaded or out of service.

There are approximately 3,000 miscellaneous equipment units necessary for proper maintenance operations. 50 per cent are self-propelled.

The mileage of the State system, including toll facilities, as of December 31, 1961, is 4847.0 miles of which 563.0 miles are divided highways. Funds for maintaining this system are derived from the 50 per cent share of the Motor Vehicle Revenue fund remaining after providing for budgets of State Police, Department of Motor Vehicle, supplemented by legislative authority to the transfer up to $6,000,000 annually from the state tax revenues in the State Roads Commission construction fund.

An additional $1,500,000 is provided annually from the construction fund for emergency construction or betterments. During 1961, approximately $1,000,000 was used to restore distressed surface areas on 72.0

Snow removal methods have changed on State highways through the years. Above scene shows how it was done in 1924. Compare it to modern methods.

A new rotary plow stands ready for action to meet the snow removal demands of today. Motorists need 24-hour, around-the-clock, around-the-colendar service on modern expressways.

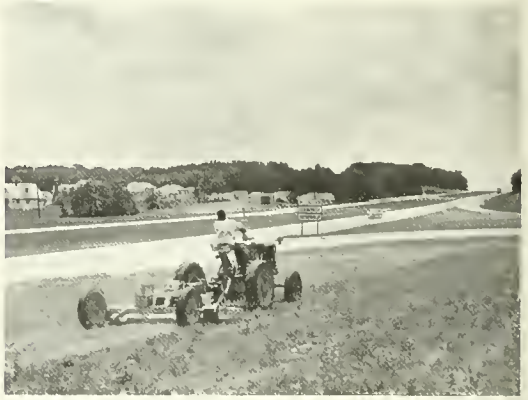
miles of 24 ft. pavement. improvement of which was not provided for in the construction program.

Apportionment of funds to the seven districts for maintenance is pro-rated by the nse of a formula which

Landscaping serves the motorist in many ways. It helps delineate curves, shield the road from snow drifts, cuts down dust, fumes and glare. It olso beautifies today's roods.

The Ocean City jetty program is under the supervision of the State Roads Commission and has been instrumental in building up Maryland's Atlantic beoch front.

spreaders for chemicals and abrasives bringing the total units to 60, 94 snowplows, 26 highway mowers, 45 small trimming mowers, 30 asphalt heaters, 3 pneumatic tire, 12 ton rollers. The equipment purchased



Part of the commission's big summer maintenance job is keeping grass in the median strip and alongside the highway well mowed.

takes into consideration the vehicle miles of travel and the square yards of surfacing in each respective area.

Landscaping

The Federal Government participates in the cost of landscaping on the Interstate Highway System when the landscaping is for functional purposes. The policy of the State Roads Commission is to make all interstate planting work entirely in the functional category. Landscaping keeps your highways beautiful, but more specifically it is employed to reduce headlight glare, delineate curves and traffic islands, create safety barriers, stabilize steep slopes, eliminate or reduce monotonous, distractive and objectionable views, create snow fences and provide a barrier for noise, dust and fume abatement in urban areas. In 1961 a full scale herbicide program was enforced.

Two thousand, four hundred acres of grass in the median areas of dual highways were treated with an application of 2,4-D for control of broadleaved weeds in mowed areas to reduce the number of mowings and at the same time improve the turf. The outlook for greater use of chemicals on maintenance programs is most encouraging.

Equipment

Equipment for the calendar year of 1961 includes: 73 dump trucks, used for snow removal as well as general maintenance, 3 seven ton V-plow snow fighters, 14 motor graders, 12 front end loaders, 23 Hooper type averages 90 per cent replacements and 10 per cent additional.

Snow Removal

One of the most important duties of the commission's maintenance force is snow removal. Impassable highways in this day of the motor vehicle can mean loss of wages to the worker and valuable man hours to our State's production. The commission uses the most modern equipment and materials in fighting snow on the roads and more than 1,300 miles of our primary roads are now in the so-called bare pavement maintenance program.

SIGNS and TRAFFIC

To justify needs, adoption of standards of construction, and application of new techniques and methods it is necessary to make numerous and extensive studies. The most continuous study made by the Commission is the Origin and Destination study.

Conducted under the supervision of the Bureau of Traffic, this study produces factual traffic data to determine needs and desires of the motoring public. Recently, the bureau participated in a comprehensive O and D study made on the major radial highways serving the Washington Metropolitan area. Presently, the same type of study is being conducted by a firm of traffic engineering consultants, under the guidance of the staff of the Bureau of Traffic. When this study is complete, a planned system of highways will be available to indicate travel needs and desires in the entire Metropolitan area of Baltimore.

Overhead signing helps the motorist make the quick decision that is required in this day of expressway driving.

Traffic Counting

An expanded program of traffic counting was started in 1961. In addition to seasonal counting there are now 33 locations at which permanent automatic traffic recording equipment records traffic volumes each hour of the day during the year. An improvement in the operations of these stations has been effected by the conversion of photo-electric detector beams across the road to a magnetic detector placed under the surface of the road, thus eliminating the possibility of two vehicles passing the electric eye beam simultaneously.

The Bureau of Traffic is also responsible for preparation and publishing of the annual state map on which the average daily traffic for the current year is shown on all State Highways at or near intersections with major highways or at city and town boundaries.

An inclusive traffic study is being made in the Washington National Pike Corridor of Montgomery County between Rockville and the Frederick County line.

Loadometer Survey

Every year a Loadometer Survey is made at a number of strategic locations within the state, whereby information regarding commercial vehicle weights and sizes is gathered annually for Research purposes of the Bureau of Public Roads.

A vast program is underway to prepare plans and erect guide signs on all Interstate Highways and other highways of the expressway type in Maryland. These signs will contain a reflectorized green background with white reflective letters which may be clearly read in advance to indicate the direction in which a motorist must turn off or onto connecting roadways.

A critical observance is being paid to accident experiences related to highway design features and remedies are being planned.

Here o crew of workmen put up special overhead signs an one of Moryland's modern expressways.

To comply with requests received from individuals and town and county officials, a total of 65 studies were made to determine the justification or need for traffic signals in particular locations.

Overhead Signing

Three hundred of these traffic signals are maintained throughout the state by the Commission.

With an eye to the future as well as meeting present-day safety demands, the Bureau of Traffic is moving into a program of overhead signing on most of the State's more heavily-traveled highways. This type of signing gives the motorist an extra factor of safety because he does not have to look to the side of the road for direction. Because of their size, overhead signs also give the motorist more time to make his decision, a decision which on an expressway could mean loss of driving time or even an accident.

Where It Came From

BOND SALES **$32,537,469**

State Highway Construction Bonds in total principal amount of $25,000,000 were sold in each of the fiscal years 1959 and 1960.

The proceeds of the State Highway issues after expenses of issuance were used for highway construction projects on the State System.

FEDERAL AID **$18,789,915**

Federal aid represents that portion of project costs reimbursed by the Federal Government under agreements with the Bureau of Public Roads.

GASOLINE TAX (50%) **$27,299,167**

The 50% portion of the Gasoline Tax Fund for the fiscal years 1959 and 1960 represents the Commission's share of the motor vehicle fuel tax imposed at the rate of 6¢ a gallon. The Commission's share is pledged to the extent required for debt service on State Highway Construction Bonds. The remainder after debt service is subject to an annual transfer not in excess of $5,000,000 from construction fund revenues to supplement maintenance funds. The balance is for construction purposes.

MOTOR VEHICLE REVENUE FUND (50%) **$5,667,121**

The Commission's 50% share of the Motor Vehicle Revenue Fund is for maintenance purposes of the State Highway System.

The Motor Vehicle Revenue Fund consists of a portion of motor vehicle registration fees, fines and certain other receipts from which deductions are made for the budgets of the State Police Department, the Department of Motor Vehicles and other operations.

TITLING TAX **$10,955,609**

The Titling tax imposed at the rate of 2% on the fair market value of motor vehicles for which certificates of title are issued is pledged to the extent required for debt service on State Highway Construction Bonds. The remainder after debt service is subject to an annual transfer not in excess of $5,000,000 from construction fund revenues to supplement maintenance funds. The remainder is for construction purposes.

OTHER SOURCES **$3,569,147**

Revenue from other sources includes participation in project costs by political subdivisions and others, income from investments, rentals, budget credits, etc.

Where It Was Used

CONSTRUCTION **$60,260,937**

This expenditure covers construction projects on the State Highway System. It includes engineering, rights-of-way, and construction costs, and a portion of administrative expenses of the Commission.

MAINTENANCE **$10,399,346**

Maintenance of the State Highway System comprises expenditures for physical maintenance, for traffic services, for operating properties, for other maintenance, and a portion of administrative expenses.

DEBT SERVICE **$15,932,233**

Debt service on State Highway Construction Bonds in 1959 comprised $8,900,000 for bond maturities and $4,713,339 for bond interest. The 1960 debt service represented $9,301,000 of bond maturities and $5,516,592 of bond interest.

OTHER PURPOSES **$2,387,240**

Enforcement of motor vehicle weight-and-size limitations, expenditures subject to reimbursement, and other miscellaneous expenditures are represented in this category.

COMMUNICATIONS

Here is the State Roods Commission's central transmitting tower at U.S. Route 40 and the Baltimore Beltway.

One of the most important advances in State Roads Commission's operative techniques was the development of an adequate radio and micro wave communications network.

The Communications Bureau has installed and maintains two-way radios in more than 400 vehicles. In addition, every district and each county maintenance shop office is equipped with receivers and transmitters and there are 31 transmitting towers throughout the State.

The two-way radio network adds to the efficiency and speed of many operations of the State Roads Commission.

In particular, the snow removal operations on the State highway system has been speeded up and trouble spots can be picked out and cleared up with much more rapidity than previously.

The materials testing operation make wide use of the radio network as does the traffic signal maintenance department.

The radio system has been beefed up last year. During the winter time, district offices maintain a 24-hour-a-day watch, so that snow removal crews can be called out rapidly in the event of a storm.

The Baltimore headquarters base station is open 24 hours a day every day of the year.

The Bureau of Communications maintains radio and teletype contact with the Maryland State Police and is in direct teletype communications with the United States Weather Bureau.

The communications equipment is kept in repair through three regional shops, the main shop in Baltimore, one in Western Maryland and one on the Eastern Shore.

Other duties of the bureau include allocation and revision of telephone assignments, recording of transcripts for public hearings and other important meetings and provision of public address systems for outdoor functions.

The Bureau of Communications is headed by Bruce C. McCallum who has had wide experience in both private communications work as well as with the military.

At work in the Baltimore communications headquarters.

TOLL FACILITIES

Average daily traffic over the four toll projects operated by the State Roads Commission rose to nearly 80,000 hicles in the year ended December 31, 1961. New traffic cords for a twelve month period were established at each the facilities—Baltimore Harbor Tunnel, Chesapeake y Bridge and Potomac and Susquehanna River Bridges. The increase in traffic raised the total individual toll nsactions to a figure in excess of 29,100,000 and accunted for gross revenues during the year of more than 6,400,000.

On the average day more than 36,800 vehicles passed rough the twin tubes of the Harbor Tunnel, an increase approximately 1,800 vehicles over the traffic volume of previous year.

Gross Income

The average daily gross income of the projects was 5,000.

Traffic over the Chesapeake Bay Bridge continued its ady growth which is reflected in an increase in the erage daily traffic to a figure of 9,156 during 1961 m an average of 5,230 vehicles during its first full ar of operation in 1953.

The four projects, which are operated and maintained the Commission through its Toll Facilities Division, d represent an investment of nearly $200,000,000 in uctures and appurtenances, are self-liquidating. With exception of a Federal Grant in early construction, y were financed through the issuance of Revenue nds which involved no expenditure of tax monies of the te. They are operated and maintained solely from nds created by toll collections.

During the year there were a number of major improvents to the projects to facilitate operation and maintence:

A modern overhead traffic guidance system, employing large neon signs and conventional traffic signals, was placed in operation at the Harbor Tunnel. The system reduces from 45 minutes to 4 minutes, the closure of one of the twin tubes and the funneling of traffic in both directions through the other. The system is used to clear the tunnel for routine maintenance, repairs, washing, and tests of the signal and fire control equipment. It also is available in the event of an emergency in one or another of the tubes which would require the diversion of traffic.

In the early summer both tubes of the Tunnel were resurfaced with bituminous material during the evening and early morning hours on two successive week ends without inconvenience to traffic.

The Northern Extension of the Tunnel Thruway was opened to traffic, giving access to the Baltimore Beltway with connections to U.S. 40 East at Golden Ring, eliminating a traffic bottleneck on Pulaski Highway within the City limits.

The toll plaza of the Chesapeake Bay Bridge was widened to expedite movement of traffic from the structure into the toll lanes.

Week End Patrol

The week end patrol of the Bay Bridge during heavy rush periods in the summer months on Saturday mornings and Sunday evenings was increased. Heavy west-bound traffic during the Sunday afternoon and evening rush was speeded up by the additional patrol to a point where the vehicular movement was increased to as high as 1,400 vehicles per hour in this one direction.

New and permanent rolling scaffolds were installed under the center spans of the Chesapeake Bay Bridge for maintenance and painting purposes.

While the administrative, maintenance and accounting functions of the Division are centralized in the Administration Building off the Harbor Tunnel Plaza, routine operation and maintenance are supervised by Superintendents on the site at the remotely located projects. Special maintenance requirements are met by inter-project transfer, on a temporary basis, of manpower and equipment.

The bridges are patrolled around the clock by Division personnel. Conditions peculiar to the operation of a vehicular tunnel require the employment of a force of approximately 100 men who, in addition to duties within the tunnel related to maximum safety for users, also patrol the extensive approaches 24 hours a day. During the last year patrol vehicles of the four projects covered in excess of one million miles.

Flow of Traffic

During the patrol of the tunnel approaches and on the bridges, the operator of specially designed emergency equipment is under orders to combine with his supervision of the flow of traffic, the rendering of assistance to motorists in difficulty. The Tunnel emergency crews removed more than 1,000 vehicles from the two tubes in the year. On the Tunnel approaches and on the bridges during the twelve months more than 14,000 motorists were assisted by the patrol crews.

Maryland's success with female toll collection personnel and supervisors was studied during the year by several of the larger operations in other parts of the Country which are contemplating the employment of women in a similar capacity at their projects.

The Division is staffed by 360 employees in the administrative, operational, maintenance and accounting units for the four projects. Chief of the division is Louis J. O'Donnell.

The beautiful superstructure of the famous Chesapeake Bay Bridge is a familiar sight to boatmen and motorists alike.

The Baltimore Harbor Tunnel carries an average of approximately 35,000 and provides relief for Baltimare City steet system.

The Susquehanna River Tall Bridge carries Raute 40 over the River and cannects Harford and Cecil counties.

"LAND FOR YOUR HIGHWAYS"

For the benefit of all the people of Maryland, it is necessary to acquire private property and utilize it in the general public interest. Every day we see new schools being built, new water mains being installed and new streets being opened. All of these varied governmental functions require the purchase of private property.

You can realize that it would not be fair to the remainder of the citizens of this State if one or two persons could stop the progress of these needed improvements. The framers of our Constitution recognized the need for governmental bodies to acquire private property for public use; they, therefore, provided appropriate powers to accomplish this end. These written powers are contained in both the Constitution of our Nation and of our State.

Market Value

This does not mean that the State can arbitrarily take whatever it wants without paying for it. You, as a property owner, are entitled to the fair market value of that portion of your property taken.

When the State Roads Commission selects a new highway route, it is not chosen simply by drawing a series of lines on a map. Each individual highway improvement is designed to fit into the master plan of highways for the entire State. Our Highway Department is divided into many specialized sections, with each contributing its individual skills to produce the most efficient and up-to-date highway system possible.

Overall Planning

The overall planning requires the assembling of statistical data and the forecasting of estimated future highway needs of the State. The traffic specialists determine where the motorist wants to go and by what route he wishes to travel. The design engineers select the type of highway that will provide the safest and most efficient means of travel. The location experts consider such factors as topography, soils, locations of rivers and streams and any other items that influence route planning. Possible locations are reviewed with the Right of Way Division and many field inspections are made on the site of the proposed improvements.

These plans are also discussed with your local officials and such topics as orderly community development, traffic flow, and the effects on residential developments, schools and churches are fully considered before a final location is fixed. A new highway route is not selected by chance, but is the best location that can be found at the lowest cost.

New Plans

If your property is affected by plans for a new highway or the widening of an old road, you will be contacted by a Right of Way Agent from the State Roads Commission.

This man has studied the plans for the proposed improvement and has reviewed the reports of the valuation experts who have appraised the right of way to be acquired. He is qualified and prepared to explain in detail how our project will affect your particular property. He will outline the basis used by the appraisers and the Bureau of Appraisal Review in determining the amount of money due you. The Right of Way Agent cannot offer you more than the compensation approved by the Bureau of Appraisal Review.

Prior to being contacted by a Right of Way Agent, you may receive a notice, by mail, that a sum of money has been deposited for your use with the Clerk of the Circuit Court for your County. This sum of money is the amount determined to be due you for the acquisition of your property. The depositing of money does not constitute a condemnation proceeding requiring legal defense by you.

The negotiator is prepared to explain the details of this deposit and discuss any particular questions you might have. If he doesn't know the answer immediately, he will make every effort to find it for you.

A survey crew in the field checks alignment of various study routes for new highways. Eventually, their data will be used to determine what rights-of-way will be needed.

THE NORTHEASTERN EXPRESSWAY

Construction of the $74,000,000 Northeastern Expressway will start this year. Here is an artist's conception of what the new bridge over the Susquehanna River and a section of the roadway will look like. Highway will be toll from White Marsh to Delaware line.

DISTRICT ENGINEERS

DISTRICT 1

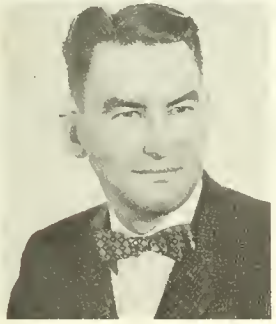
C. ALBERT SKIRVEN, *District Engineer.* The district includes Dorchester, Wicomico, Worcester and Somerset counties. District headquarters are on West Road, Salisbury.

Telephone: Ploneer 2-2101

DISTRICT 2

C. ROLAND SHARRETTS. *District Engineer.* The district includes Caroline, Cecil, Kent, Queen Anne's and Talbot counties. District headquarters are at 335 High Street, Chesterstown.

Telephone: Chestertown 249



DISTRICT 3

WILLIAM L. SHOOK, *District Engineer.* The district includes Montgomery and Prince George's counties. District headquarters on U.S. Route 1 in Laurel.

Telephone: PArkway 5-0690

Maryland is divided into seven State Roads Commission engineering districts. The district office brings the work of the commission clase to home. These are the field offices where local needs and problems con best be answered. The district engineer is the man on the firing line to keep your highways up to date.

DISTRICT 7

THOMAS C. MOHLER, *District Engineer.* The district includes Carroll, Frederick and Howard counties. District headquarters are at 4 Locust Street, Frederick.

Telephone: MOnument 2-1171

DISTRICT 4

ENOCH C. CHANEY, *District Engineer.* The district includes Baltimore and Harford counties. District headquarters are in the Post Office Building, Reisterstown.

Telephone: TEnnyson 3-3000

DISTRICT 5

M. CHAPMAN THOMPSON. *District Engineer.* The district includes Anne Arundel, Calvert, Charles and St. Mary's counties. District headquarters are in the Maryland Home Title Insurance Building, Upper Marlboro.

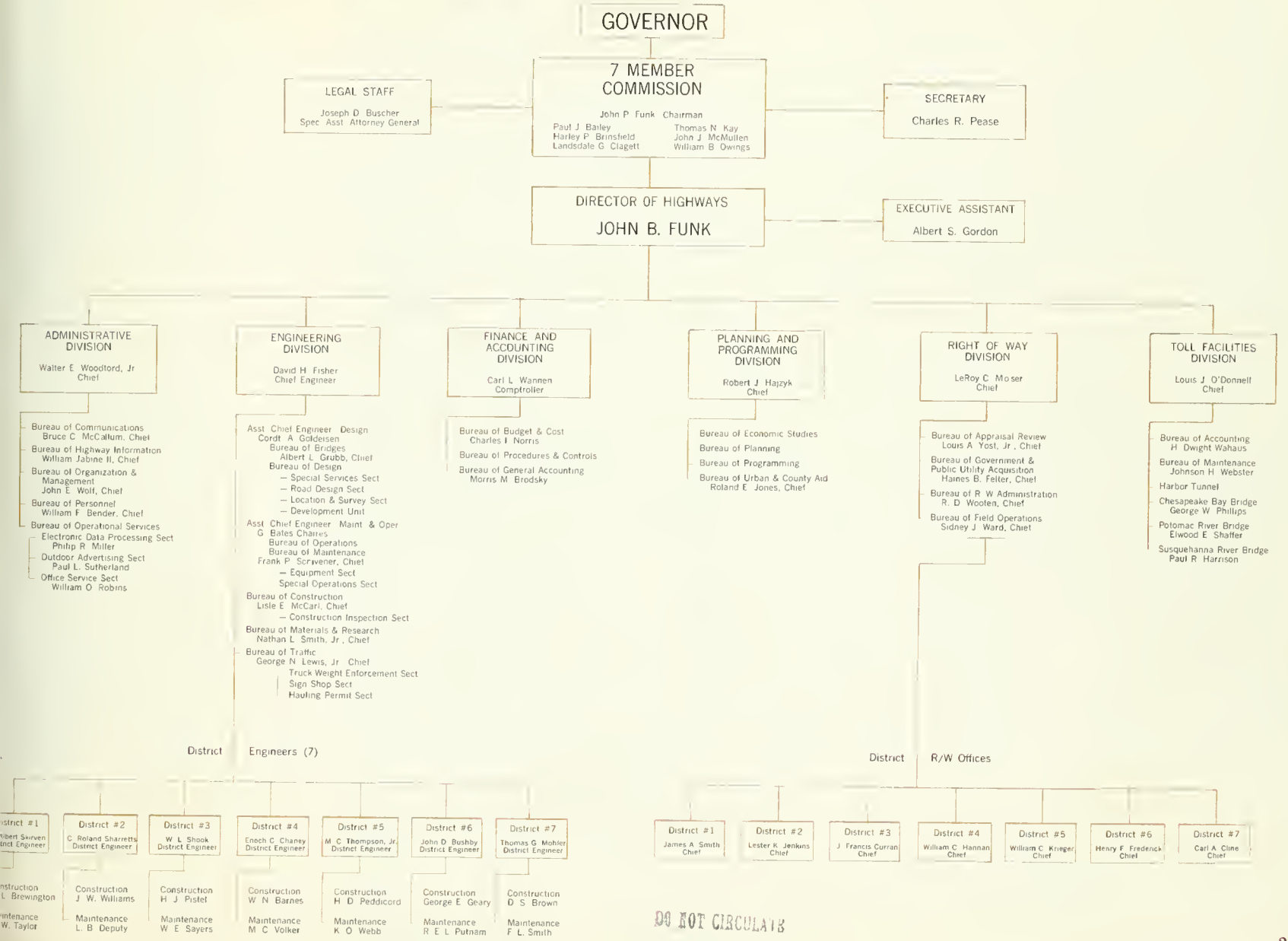
Telephone: MArket 7-3312

DISTRICT 6

JOHN D. BUSHBY, *District Engineer.* The district includes Allegany, Garrett and Washington counties. District headquarters are on Braddock Road, Cumberland.

Telephone: PArkview 4-5670

ORGANIZATION CHART OF STATE ROADS COMMISSION OF MARYLAND



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